

标准

- ❖ 高效率
1.1kW-90kW, 2极和4极, S1工作制, M2QA系列达到CEMEP-EU的II级效率标准, 具有较好的节能效果。
- ❖ 轴承具有较高承载能力
配置深沟球轴承, 大大延长电动机的工作寿命。71-225 铸铁电动机配有免润滑轴承, 250-355电动机标准配置 装有注排油装置。
- ❖ 宽电压设计
高至690V且可应用于50Hz和60Hz电网。
- ❖ 低噪音水平
M2QA系列通过改善电磁和电气设计、冷却系统及结构 优化和技术, 使电机的噪音降低到最小程度。
- ❖ 可靠的绕组
绕组采用最新技术的绝缘材料, 可达到F级绝缘和B级温 升(80K), 确保绕组具有较长的使用寿命。
- ❖ 防腐蚀能力强
电动机防腐蚀能力强。可在恶劣的条件下正常运行, 使 使用寿命较长。
- ❖ 额外的绕组保护
根据客户要求可加装PTC热敏电阻、热敏开关和防冷凝 装置。

机械设计

- ❖ 全封闭自扇冷设计, IP55防护等级
重负载设计, 同时采用强抗腐蚀铸铁材料, 使M2QA系 列电动机可适应各种环境。电动机的机械结构极其坚 固, 标准设计采用变频驱动器, 额外节能。
- ❖ 灵活的进线方式
接线盒可安装在电动机顶部、右侧或左侧。71-132电动 机接线盒可旋转4×90°, 160-355电动机接线盒可旋转 2×180°。所有规格的电动机都易于改装。
- ❖ 强大的改装能力
电动机针对不同环境及应用有多种可选配置, 如更高的 防护等级、绝缘等级、重新润滑装置、防尘保护、密封 圈、防护罩等等。

Standards

- ❖ High efficiency
1.1kW-90kW, 2P and 4P, in S1 duty, M2QA motors are among the class 2 of CEMEP-EU standard, saving energy and operating costs.
- ❖ Voltage ranges of extra versatility
A wide range of voltages can be up to max. 690 V, for 50 Hz and 60 Hz is available.
- ❖ Reliable windings
To ensure long lifetime, the windings are made of the latest available materials in class F protection and temperature rise limited to class B(80K) in standard motors.
- ❖ Strong corrosion protection
The motors are made to withstand aggressive environment as standard and they are designed for long lifetime. For motors with regreasable elements, they have strong and effective protection against corrosion.
- ❖ Bearings with high load capacity
All motors are provided with deep-groove ball bearings, the lifetime is extended. Cast iron motors in sizes 71-225 are greased for life, and those in sizes 250-355 have a regreasing device as a standard.
- ❖ Low noise level
The M2QA range has been designed to minimize motors noise levels by means of improving magnetic and electrical design, ventilating condition, structural assembling size and technology.
- ❖ Additional winding protection
PTC thermistors, thermal switches and anticondensation on request.

Mechanical Design

- ❖ Totally enclosed fan cooled IP55
Heavy duty design, manufactured from extra corrosion resistant cast iron materials to be used in all kind of environ- ment. The motor is mechanically very strong and robust and as standard designed for additional energy saving through frequency converter drives.
- ❖ Flexible cable entry direction
Terminal boxes are mounted on the top of the motors, right or left. Terminal boxes of motor size 71-132 can rotate 4×90°, and those of 160-355 can rotate 2×180°. All are easy to refit.
- ❖ Powerful refit available
The motors satisfy the requirements of a wide range of environments and applications, such as improving protection, insulation level, regreasing facilities, dust-proof, sealing rings, protective roof are available.

绝缘和绝缘等级

IEC 60085标准将绝缘材料分为不同的绝缘等级。每个等级的标识都与该绝缘材料在正常运行情况下所能达到的温度极限值相对应。

一台电动机的绕组绝缘是按电动机内的温升和环境温度而定的。通常根据电动机在额定输出功率和40°C环境温度下的最高温度值确定其绝缘等级。工作温度高于40°C的电动机通常需要重新定级。大多数情况下, ABB电动机在标准额定输出下可达到F级绝缘, B级温升, 能够满足当今工业中的绝大多数的要求。

所有电动机的设计都达到F级绝缘, 能够耐受B级以上的温升。因此, 电动机有充分的过负荷裕量。如果能够达到F级温升, 则各表中给出的输出功率一般可增加大约12%。

图中的温度极限值符合各标准规定。采用F级绝缘和B级温升设计时, 额外的耐热裕度可确保电动机的性能更可靠。

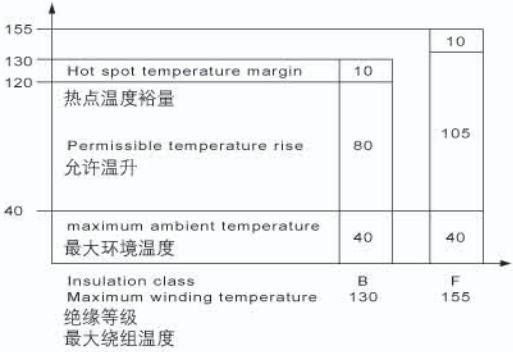
Insulation and Insulation Classes

According to IEC 60085, insulating materials are divided into insulation classes. Each class has a designation corresponding to the temperature that is the upper limit of the range of application of the insulating material under normal operating condition.

The winding insulation of a motor is determined on the basis of the temperature rise in the motor and the ambient temperature. The insulation is normally dimensioned for the hottest point in the motor at its normal rated output and at ambient temperature of 40°C. Motors subjected to ambient temperatures above 40°C will generally have to be derated. In most cases, the standard rated outputs of motors from ABB uses class F insulation systems, which, with temperature rise B, is the most common requirement among industry today.

However, all the motors are designed with class F insulation, which permits a higher temperature rise than class B. The motors, therefor, have a generous over-load margin. If temperature rise to class F is allowed, the outputs given in the tables can generally be increased by about 12%.

Temperature limits are according to standards. The extra thermal margin when using class F insulation with class B temperature rise makes the motors more reliable.



用于其它电压值的电动机

在50Hz频率某一电压下工作的电动机, 也可以在其它电压值下运行。下表中给出了电流和转矩换算系数, 效率、功率因数和转速略有变化。

如用户需要可提供保证值。

电动机额定电压 Motor wound for	230V		400V		500V		690V	
连接到50Hz Connected to 50Hz	220V	230V	380V	415V	500V	550V	660V	690V
电动机性能值(460V, 60Hz),% % of values at 460V, 60Hz								
输出功率 Output	100	100	100	100	100	100	100	100
IN	182	174	105	98	80	75	61	58
Is/IN	90	100	90	106	100	119	90	100
Ts/TN	90	100	90	106	100	119	90	100
Tmax/TN	90	100	90	106	100	119	90	100

Motors for Other Voltages

Motors wound for a given voltage at 50Hz can also be used for other voltage. Recalculation factors for current and torque are given below, efficiency, power factor and speed remain. Approximately the same.

Guaranteed values available on request.

在60Hz频率某一电压下工作的电动机，也可以在其它电压值下运行。右表中给出了电流和转矩的近似换算系数，效率、功率因数和转速略有变化。如用户需要可提供保证值。

Motors wound for a given voltage at 60Hz can also be used for other voltages. Approximate recalculation factors for current and torque given are beside; efficiency, power factor and speed remain approximately the same.
Guaranteed values available on request.

电动机额定电压 Motor wound for	460V		575V
连接到60Hz Connected to 60Hz	440V	480V	575V
电动机性能值(460V, 60Hz),% % of values at 460V, 60Hz			
输出功率 Output	100	100	100
IN	105	96	80
Is/IN	90	109	100
Ts/TN	90	109	100
Tmax/TN	90	109	100

轴承和接线盒

下表列出了标准配置下的单列深沟球轴承。接线盒安装在电动机的顶部。71-132电动机的接线盒可旋转4×90°，160-355电动机的接线盒可旋转2×180°。标准接线盒的防护等级为IP55。电动机标准配有2个电缆接口见下。

Bearings and Terminal Boxes

The motors are normally fitted with single-row deep groove ball bearings as listed in the table below. Terminal boxes are mounted on top of the motor. The terminal box of motor sizes 71 to 132 can be turned 4 x 90° and in motors sizes 160 to 355 rotated 2 x 180°. Degree of protection of the standard terminal box is IP55. The motors are supplied with 2 cable entries as a standard according to the table below.

型号	极数	标准 驱动端		轴承型号 非驱动端		电缆接口 mm	型号	极数	标准 驱动端		轴承型号 非驱动端		电缆接线孔口 mm
Type	Poles	Standard D-end		bearing type N-end		Cable entry mm	Type	Poles	Standard D-end		bearing type N-end		Cable entry mm
71M	2, 4, 6	6202	VVC3	6202	VVC3	2-M16 X 1.5	250M	2	6314	C3	6214	C3	2-M63 X 1.5
80M	2, 4, 6, 8	6204	DDUC3	6204	DDUC3	2-M25 X 1.5	250M	4, 6, 8	6314	C3	6214	C3	2-M63 X 1.5
90S	2, 4, 6, 8	6205	DDUC3	6205	DDUC3	2-M25 X 1.5	280S	2	6316	C4	6316	C4	2-M63 X 1.5
90L	2, 4, 6	6205	DDUC3	6205	DDUC3	2-M25 X 1.5	280S	4, 6, 8	6316	C3	6316	C3	2-M63 X 1.5
100L	2, 4, 6, 8	6206	DDUC3	6206	DDUC3	2-M32 X 1.5	280M	2	6316	C4	6316	C4	2-M63 X 1.5
112M	2, 4, 6, 8	6207	DDUC3	6206	DDUC3	2-M32 X 1.5	280M	4, 6, 8	6316	C3	6316	C3	2-M63 X 1.5
132S	2, 4, 6, 8	6208	DDUC3	6207	DDUC3	2-M32 X 1.5	315S	2	6316	C4	6316	C4	2-M63 X 1.5
132M	2, 4, 6, 8	6208	DDUC3	6207	DDUC3	2-M32 X 1.5	315S	4, 6, 8	6319	C3	6319	C3	2-M63 X 1.5
160M	2, 4, 6, 8	6309	ZZC3	6209	ZZC3	2-M40 X 1.5	315M	2	6316	C4	6316	C4	2-M63 X 1.5
160L	2, 4, 6, 8	6309	ZZC3	6209	ZZC3	2-M40 X 1.5	315M	4, 6, 8	6319	C3	6319	C3	2-M63 X 1.5
180M	2, 4, 6, 8	6310	ZZC3	6210	ZZC3	2-M40 X 1.5	315L	2	6316	C4	6316	C4	2-M63 X 1.5
180L	2, 4, 6, 8	6310	ZZC3	6210	ZZC3	2-M40 X 1.5	315L	4, 6, 8	6319	C3	6319	C3	2-M63 X 1.5
200L	2, 4, 6, 8	6312	ZZC3	6212	ZZC3	2-M50 X 1.5	355M	2	6319M	C4	6319M	C4	2-M63 X 1.5
225S	4, 6, 8	6313	ZZC3	6213	ZZC3	2-M50 X 1.5	355M	4, 6, 8	6322	C3	6319	C3	2-M63 X 1.5
225M	2	6313	ZZC3	6213	ZZC3	2-M50 X 1.5	355L	2	6319M	C4	6319M	C4	2-M63 X 1.5
225M	4, 6, 8	6313	ZZC3	6213	ZZC3	2-M50 X 1.5	355L	4, 6, 8	6322	C3	6319	C3	2-M63 X 1.5

* 注：详见24-25页。
*Note: see page 24-25 for detail.

电动机铭牌

71-132电动机铭牌上标有电压范围的一个电流值，这是电动机在达到规定输出功率时，电压范围内产生的最大电流值。

Rating Plate

For motor sizes 71 to 132 the rating plate gives one current value for the voltage area. That is the highest current that can occur within the voltage area with the given output.

ABB		ABB Motors				CE	
3~Mot. M2QA 90S2A		IEC60034-1					
3GQA091101-ASA		EFF2					
6205/C3		6205/C3		IP55		cl.F	
v	Hz	r/min	kW	cosø	A		
220-240Δ	50	2850	1.5	0.87	5.58		
380-420Y	50	2850	1.5	0.87	3.23		
440-480Y	60	3420	1.73	0.87	3.30		
No 32911117711				21 kg			

160-355的电动机铭牌上以表格形式给出了6个电压值的转速、电流和功率因数。

For motor size 160 to 355 the rating plate is in table form giving values for speed, current and power factor for six voltages.

ABB		ABB Motors				CE	
3~motor. M2QA180L4A		IEC 180L 48		EFF2			
S1		No 29229936					
Cert.no		Ins.cl.F		IP55			
V	Hz	kW	r/min	A	cosø	IA/IN	tE/S
690Y	50	22	1470	22.86	0.88		
400Δ	50	22	1470	39.44	0.88		
660Y	50	22	1465	23.37	0.90		
380Δ	50	22	1465	40.59	0.90		
415Δ	50	22	1475	38.90	0.86		
440Δ	60	25.3	1764	40.06	0.89		
Cert.no 3GQA 182501-ADA							
6310/C3		6210/C3		186 kg			
		IEC 60034-1					

滑轮直径

确定所需的轴承工作寿命以后，可用FR按下面的公式计算出允许的最小滑轮直径：

$$D = \frac{1.9 \cdot 10^7 \cdot K \cdot P}{n \cdot FR}$$

式中：
D=滑轮直径，mm
P=功率要求，kW
n=电动机转速，r/min
K=皮带张紧系数，视皮带型式和荷载型式而定，三角带的公共系数为2.5
FR=允许的径向力

Pulley Diameter

When the desired bearing life has been determined, the minimum permissible pulley diameter can be calculated using FR, as follows;
$$D = \frac{1.9 \cdot 10^7 \cdot K \cdot P}{n \cdot FR}$$

where:
D=diameter of pulley, mm
P=power requirement, kW
n=motor speed, r/min
K=belt tension factor, dependent on belt type and type of duty.
A common value for V-belts is 2.5.
FR=permissible radial force

轴端的允许荷载

下表给出的允许径向力(N)假定轴向力为零。以数据是50Hz的正常条件，71-355电动机的轴承工作寿命为20000小时和40000小时为依据。
IM B3底脚式安装的电动机使作用力向两侧延伸。

有些情况下，轴的强度会影响能够承载的允许作用力。额定频率为60Hz时，这些值必须减少10%。如果是双速电动机，则必须以更高的转速为计算依据。根据用户要求可提供径向力和轴向力同时存在时的允许荷载。

Permissible Loadings on the Shaft End

The tables below give the permissible radial force in newton, assuming zero axial force. The values are based on normal conditions at 50 Hz and calculated bearing lives for motor size 71 to 355 of 20000 hours and 40000 hours.
Motors are foot-mounted IM B3 version with force directed sideways.

In some cases the strength of the shaft affects the permissible forces. At 60Hz the values must be reduced by 10%. For two-speed motors, the values must be based on the higher speed.
Permissible loads of simultaneous radial and axial forces will be supplied on request.

允许的径向力

71-355电动机

Permissible Radial Forces

Motors sizes 71 to 355

Motor size	20000 hours Ball bearings								40000 hours Ball bearings							
	2-pole		4-pole		6-pole		8-pole		2-pole		4-pole		6-pole		8-pole	
	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
71M	381.1	322.2	479.6	405.4	555.1	469.2	-	-	302.5	255.7	380.7	321.8	440.5	372.4	-	-
80M	624.2	509.4	788.3	643.3	906.7	739.9	996.7	813.4	495.4	404.3	625.7	510.6	719.6	587.3	791.1	645.6
90S	686.0	542.2	869.5	687.2	1000.1	790.4	1095.4	865.8	544.5	430.4	690.1	545.4	793.8	627.3	869.5	687.2
90L	696.4	564.2	884.7	716.8	1015.1	822.5	1112.0	901.0	552.7	447.8	702.2	568.9	805.7	652.8	882.6	715.1
100L	979.4	784.8	1233.9	988.8	1419.1	1137.2	1565.7	1254.6	777.3	622.9	979.4	784.8	1126.4	902.6	1242.7	995.8
112M	1257.8	1014.4	1592.1	1283.9	1831.1	1476.7	2020.1	1629.1	998.3	805.1	1263.6	1019.1	1453.3	1172.0	1603.4	1293.1
132S	1435.0	1121.7	1820.5	1423.1	2079.1	1625.3	2299.1	1797.2	1138.9	890.3	1444.9	1129.5	1650.2	1290.0	1824.8	1426.5
132M	-	-	1840.2	1476.3	2106.5	1689.9	2329.4	1868.7	-	-	1460.6	1171.7	1672.0	1341.3	1848.8	1483.2
160M	1544.0	1199.8	1947.5	1513.4	2231.9	1734.4	2465.0	1915.6	1225.5	952.3	1545.7	1201.2	1771.5	1376.6	1956.5	1520.4
160L	1562.7	1242.9	1971.2	1567.8	2259.0	1796.7	2495.0	1984.4	1240.4	986.5	1564.5	1244.3	1793.0	1426.0	1980.3	1575.0
180M	2983.6	2371.3	3759.1	2987.7	-	-	-	-	2368.1	1882.1	2983.6	2371.3	-	-	-	-
180L	-	-	3801.5	3073.0	4351.6	3517.7	4800.4	3880.5	-	-	3017.2	2439.0	3453.9	2792.0	3810.1	3080.0
200L	4089.8	3376.8	5161.5	4261.7	5908.5	4878.5	6517.9	5381.7	3246.1	2680.2	4096.7	3382.6	4689.6	3872.1	5173.3	4271.5
225S	-	-	5762.8	4526.4	-	-	7260.7	5702.9	-	-	4574.0	3592.6	-	-	5762.8	4526.4
225M	4591.0	3811.1	5790.9	4594.2	6643.9	5271.0	7260.7	5788.4	3643.9	3024.9	4596.2	3646.4	5273.3	4183.6	5790.9	4594.2
250M	5111.6	4170.0	6439.9	5253.6	7388.1	6027.2	8113.0	6618.5	4057.0	3309.7	5111.1	4169.6	5863.7	4783.5	6438.9	5252.8
280S	6000.2	4956.7	7570.1	6253.5	8679.2	7169.8	9573.5	7878.8	4761.8	3933.7	6007.7	4962.9	6888.0	5690.1	7569.1	6252.7
280M	6048.5	5059.3	7631.5	6383.4	8750.0	7318.9	9615.4	8042.8	4799.8	4014.8	6056.1	5065.6	6943.7	5808.1	7630.5	6382.5
315S	6602.4	5627.1	9533.5	7882.0	10916.1	9025.1	12028.5	9944.8	5239.0	4465.1	7565.3	6254.8	8662.6	7162.0	9545.4	7891.8
315M	6677.1	5793.3	9647.8	8145.0	11047.2	9326.4	12173.2	10277.0	5297.9	4596.7	7655.6	6463.1	8766.3	7400.7	965938	8155.1
315L	6675.9	5792.3	9648.0	8145.1	11045.3	9324.7	12171.2	10275.3	5296.6	4595.6	7655.4	6462.9	8764.6	7399.1	9657.9	8153.5
355M	8280.0	6790.0	14060.0	11529.0	16089.0	13193.0	-	-	5612.0	4602.0	11100.0	9102.0	12741.0	10448.0	-	-
355L	8372.0	6865.0	14136.0	11592.0	16175.0	13264.0	-	-	5612.0	4652.0	11100.0	9213.0	12741.0	10575.0	-	-

径向力位于X₀和X_{max}之间时，按照下面的公式计算允许的作用力

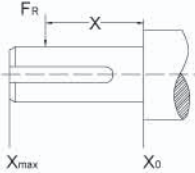
$F_R = F_{X0} \cdot X / E (F_{X0} - F_{Xmax})$

E=基本型号的轴伸长度

If the radial force is applied between points X₀ and X_{max}, the permissible force F_R can be calculated from the following formula:

$F_R = F_{X0} \cdot X / E (F_{X0} - F_{Xmax})$

E=length of shaft extension in basic version

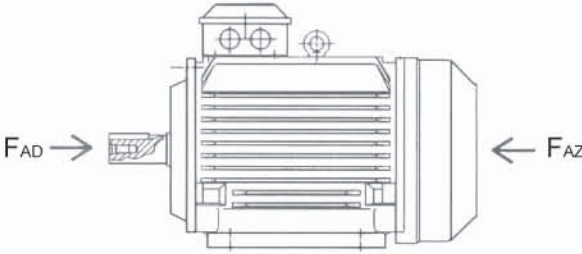


允许的轴向力

下表给出的允许轴向力(N) 假定径向力为零。以在50Hz额定频率下正常运行，轴承寿命为20000小时和40000小时为依据。

额定频率为60Hz时，这些值必须减少10%。如果是双速电动机，则必须以更高的转速为计算依据。根据用户要求可提供径向力和轴向力同时存在时的允许荷载。

施加轴向力F_{AD}时假定驱动端轴承用档圈锁定。



IMB3安装型式
Mounting Arrangement IMB3

Motor size	20000 hours Ball bearings								40000 hours Ball bearings							
	2-pole		4-pole		6-pole		8-pole		2-pole		4-pole		6-pole		8-pole	
	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
71M	268.3	268.3	362.9	362.9	438.6	438.6	-	-	198.6	198.6	267.8	267.8	325.0	325.0	-	-
80M	434.8	434.8	592.9	592.9	712.6	712.6	804.0	804.0	320.6	320.6	436.1	436.1	528.4	528.4	595.6	595.6
90S	471.8	471.8	647.0	647.0	778.2	778.2	873.0	873.0	347.1	347.1	475.4	475.4	576.4	576.4	647.0	647.0
90L	471.8	471.8	648.9	648.9	778.2	778.2	873.0	873.0	347.7	347.7	477.0	477.0	576.4	576.4	647.0	647.0
100L	648.3	648.3	883.7	883.7	1058.3	1058.3	1202.6	1202.6	475.6	475.6	648.3	648.3	781.5	781.5	891.5	891.5
112M	843.0	843.0	1157.0	1157.0	1382.8	1382.8	1574.2	1574.2	617.1	617.1	848.0	848.0	1019.4	1019.4	1167.3	1167.3
132S	947.2	947.2	1302.3	1302.3	1542.7	1542.7	1764.0	1764.0	692.5	692.5	955.5	955.5	1135.8	1135.8	1306.7	1306.7
132M	-	-	1297.9	1297.9	1542.7	1542.7	1764.0	1764.0	-	-	952.6	952.6	1135.8	1135.8	1306.7	1306.7
160M	1017.7	1017.7	1382.1	1382.1	1651.2	1651.2	1881.4	1881.4	743.1	743.1	1019.2	1019.2	1214.3	1214.3	1391.0	1391.0
160L	1017.7	1017.7	1382.1	1382.1	1651.2	1651.2	1881.4	1881.4	743.1	743.1	1019.2	1019.2	1214.3	1214.3	1391.0	1391.0
180M	1972.9	1972.9	2665.0	2665.0	-	-	-	-	1441.7	1441.7	1972.9	1972.9	-	-	-	-
180L	-	-	2665.0	2665.0	3197.1	3197.1	3626.4	3626.4	-	-	1972.9	1972.9	2346.4	2346.4	2673.2	2673.2
200L	2569.6	2569.6	3489.1	3489.1	4197.9	4197.9	4754.7	4754.7	1882	1882	2575.9	2575.9	3077.9	3077.9	3499.8	3499.8
225S	-	-	3904.5	3904.5	-	-	5309.0	5309.0	-	-	2878.0	2878.0	-	-	3904.5	3904.5
225M	2873.4	2873.4	3904.5	3904.5	4718.4	4718.4	5309.0	5309.0	2117.4	2117.4	2878.0	2878.0	3457.5	3457.5	3904.5	3904.5
250M	3225.3	3225.3	4378.4	4378.4	5293.1	5293.1	5955.9	5955.9	2379.2	2379.2	3225.3	3225.3	3879.3	3879.3	4378.4	4378.4
280S	3714.9	3714.9	5007.7	5007.7	6087.7	6087.7	6924.2	6924.2	2766.7	2766.7	3721.9	3721.9	4509.5	4509.5	5077.7	5077.7
280M	3714.9	3714.9	5077.7	5077.7	6087.7	6087.7	6924.2	6924.2	2766.7	2766.7	3721.9	3721.9	4509.5	4509.5	5077.7	5077.7
315S	3963.9	3963.9	6141.0	6141.0	7292.2	7292.2	8300.9	8300.9	2965.5	2965.5	4478.5	4478.5	5357.8	5357.8	6153.3	6153.3
315M	3963.9	3963.9	6141.0	6141.0	7292.2	7292.2	8300.9	8300.9	2965.5	2965.5	4478.5	4478.5	5357.8	5357.8	6153.3	6153.3
315L	3964.7	3964.7	6143.0	6143.0	7292.2	7292.2	8300.9	8300.9	2965.8	2965.8	4479.5	4479.5	5357.8	5357.8	6153.3	6153.3
355	5775	2310	8100	4050	9484	5160	10080	8420	4675	1460	5770	2030	6411	2611	7106	3366

订货须知

订货举例
订购电动机时，请详细说明电动机型号、规格和产品代码。电动机的产品代码有不同的组成方法，下面列举一些例子。

A	B	C	D, E, F			
M2QA	100L2A	3GQA	1 0	1	5	10
		1-4	5-6	7	8-10	11

- A 电动机型号
- B 电动机规格
- C 产品代码
- D 安装型式代码
- E 电压和频率代码
- F 产地代码

Ordering Information

Sample order
When placing an order, the motor type, size and product code must be specified. The product code of the motor is composed in various ways, in accordance with the following examples.

A	B	C	D, E, F			
M2QA	100L2A	3GQA	1 0	1	5	10
		1-4	5-6	7	8-10	11

- A Motor type
- B Motor size
- C Product code
- D Mounting arrangement code
- E Voltage and frequency code
- F Generation code

产品代码说明
Explanation of the Product Code

第1位~第4位 Positions 1 and 4		第12位 安装型式	
M2QA=铸铁全封闭自扇冷鼠笼电动机 M2QA=Totally enclosed fan cooled squirrel cage motor with cast iron frame		A=底脚安装，接线盒顶置 R=底脚安装，接线盒右置（从驱动端看） L=底脚安装，接线盒左置（从驱动端看） B=大法兰安装 C=小法兰安装(71-160) H=底脚和法兰安装	
第5位~第6位 Positions 5 and 6		Positions 12 Mounting arrangement	
IEC机座号 IEC frame		A=Foot-mounted, top-mouted terminal box R=Foot-mounted, terminal box on RHS, seen from D-end L=Foot-mounted, terminal box on LHS, seen from D-end B=Flange-mounted, large flange C=Flange-mounted, small flange size(71-160) H=Foot-and flange-mounted	
07 = 71	13 = 132	25 = 250	
08 = 80	16 = 160	28 = 280	
09 = 90	18 = 180	31 = 315	
10 = 100	20 = 200	35 = 355	
11 = 112	22 = 225		
第7位 转速(极数)		Positions 7 Speed(pole pairs)	
1=2极	6=12极	1=2poles	6=12poles
2=4极	7=>12极	2=4poles	7=>12poles
3=6极	8=双速	3=6poles	8=Two-speed motors
4=8极	9=多速	4=8poles	9=multi-speed motors
5=10极		5=10poles	
第8位~第10位 编号		Positions 8 to 10 Running number series	
第11位 -(破折号)		Positions 11 -(dash)	

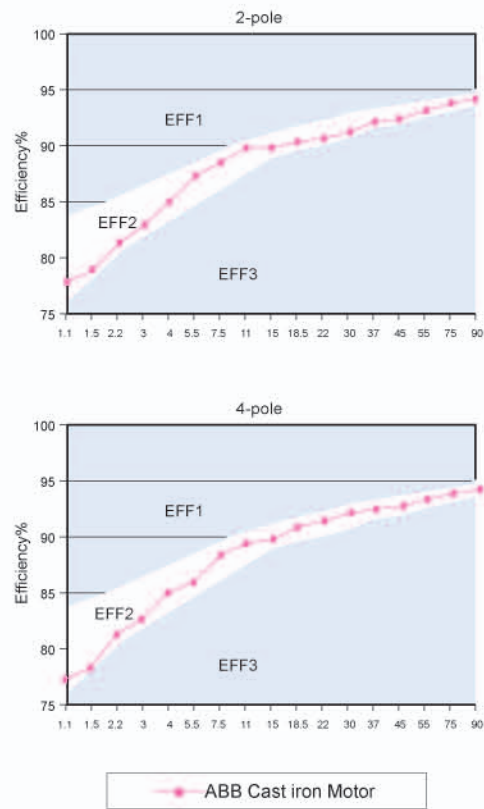
符合EU电动机效率等级的电动机

新的欧洲协议规定欧洲出产的电动机要明确标出效率等级。与美国有关电动机效率的法规不同的是欧洲协议并未设立强制性效率等级。
ABB是欧洲范围内保证使电动机效率达到或超过低压电动机欧盟协议最高等级规定的最低效率的少数几大电动机制造商之一。
这些效率等级适用于2极和4极3相鼠笼感应电动机，额定电压400V，额定频率50Hz，S1工作制，输出功率1.1~90kW，此类电动机是占据最大市场份额的电动机。

Motors for EU Motor Efficiency Levels

A new Europe-wide agreement will ensure that the efficiency levels of electric motors manufactured in Europe are clearly displayed. In contrast to the American legislation on motor efficiency the European agreement does not establish mandatory efficiency levels.
ABB is one of only a handful of leading motor manufacturers in Europe, to have a motor range to meet or exceed the minimum efficiencies stated in the highest level of the EU agreement of LV motors.
These efficiency levels apply to 2-and-4-pole, three phase squirrel cage induction motors. rated for 400V. 50Hz, with S1 duty class with the output 1.1 to 90kW, which account for the largest volume on the market.
The efficiency of motors from different manufacturers is collated in a database. EURODEEM. published by the European Commission. It is accessible over the Internet at <http://uamest.jrc.it/projects/eem/eurodeem.htm>.

标准3相感应电动机，400V 50Hz-ABB电动机效率等级
Standard three phase induction motors, 400V 50Hz-ABB motors efficiency levels



EU Efficiency Classes

Output kW	2-pole Border line EFF2/EFF3	2-pole EFF1/EFF2	4-pole Border line EFF2/EFF3	4-pole EFF1/EFF2
1.1	76.2	82.8	76.2	83.8
1.5	78.5	84.1	78.5	85.0
2.2	81.0	85.6	81.0	86.4
3	82.6	86.7	82.6	87.4
4	84.2	87.6	84.2	88.3
5.5	85.7	88.6	85.7	89.2
7.5	87.0	89.5	87.0	90.1
11	88.4	90.5	88.4	91.0
15	89.4	91.3	89.4	91.8
18.5	90.0	91.8	90.0	92.2
22	90.5	92.2	90.5	92.6
30	91.4	92.9	91.4	93.2
37	92.0	93.3	92.0	93.6
45	92.5	93.7	92.5	93.9
55	93.0	94.0	93.0	94.2
75	93.6	94.6	93.6	94.7
90	93.9	95.0	93.9	95.0

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

400V 50Hz													
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency		功率因数 Power factor cos φ	电流 Current		转矩 Torque				
				Full	3/4		额定电流	堵转电流	额定转矩	堵转转矩	最大转矩		
				load	load								
				100% η	75% η		IN	额定电流	TN	额定转矩	额定转矩		
3000r/min=2poles Basic design													
0.37	M2QA	71M2A	3GQA	071301-	2780	70.0	68.02	0.815	0.94	6.1	1.27	2.2	2.2
0.55		71M2B		071302-	2785	73.0	72.38	0.82	1.33	6.1	1.89	2.2	2.2
0.75		80M2A		081301-	2840	75.0	75.48	0.85	1.7	6.1	2.52	2.2	2.2
1.1		80M2B		081302-	2855	78.0	77.86	0.845	2.4	7.0	3.68	2.2	2.2
1.5		90S2A		091101-	2850	79.0	78.96	0.87	3.15	7.0	5.03	2.2	2.2
2.2		90L2A		091501-	2850	81.5	81.82	0.86	4.53	7.0	7.37	2.2	2.2
3		100L2A		101501-	2860	83.0	83.16	0.88	5.93	7.0	10.02	2.2	2.2
4		112M2A		111301-	2900	85.0	84.56	0.90	7.55	7.0	13.17	2.2	2.2
5.5		132S2A		131101-	2920	87.5	87.87	0.89	10.2	7.0	17.99	2.2	2.2
7.5		132S2B		131102-	2920	88.5	90.12	0.90	13.6	7.0	24.53	2.2	2.2
11		160M2A		161301-	2930	90.0	90.52	0.89	19.82	6.5	35.85	2.5	3.0
15		160M2B		161302-	2920	90.0	90.10	0.89	27.03	6.5	49.06	2.5	3.2
18.5		160L2A		161501-	2930	90.5	90.86	0.90	32.78	6.5	60.30	2.5	3.2
22		180M2A		181301-	2940	90.8	91.02	0.90	38.86	6.5	71.46	2.3	2.8
30		200L2A		201501-	2955	91.4	91.10	0.90	52.64	6.5	96.95	2.2	2.7
37		200L2B		201502-	2955	92.2	91.83	0.90	64.36	6.5	119.6	2.3	2.7
45		225M2A		221301-	2970	92.6	92.16	0.89	78.81	7.0	144.7	2.5	2.8
55		250M2A		251301-	2960	93.4	91.7	0.89	95.5	7.5	177.4	2.4	3.0
75		280S2A		281101-	2970	94.0	92.3	0.90	128	7.5	241.0	2.5	3.3
90		280M2A		281301-	2970	94.3	92.4	0.90	153	7.5	289.2	2.3	3.2
110		315S2A		311101-	2980	94.0	92.16	0.91	185.6	7.1	352.5	1.8	2.2
132		315M2A		311301-	2980	94.5	92.96	0.91	221.6	7.1	423.0	1.8	2.2
160		315L2A		311501-	2979	94.6	93.52	0.92	265.4	7.2	512.9	1.8	2.2
200		315L2B		311502-	2978	94.8	93.95	0.92	331	7.2	641.4	1.8	2.2
*250		355M2A		351301-	2980	95.4	94.50	0.92	411.1	7.1	802	2.3	2.8
*315		355L2A		351501-	2980	96.0	95.25	0.92	515	6.9	1011	2	2.8

400V 50Hz													
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency		功率因数 Power factor cos φ	电流 Current		转矩 Torque				
				Full load	3/4 load		额定电流 In	堵转电流 额定电流	额定转矩 TN	堵转转矩 额定转矩	最大转矩 额定转矩		
				100% η	75% η		A	Is/In	Nm	Ts/TN	TMAX/TN		
1500r/min=4poles Basic design													
0.25	M2QA	71M4A	3GQA	072301-	1395	65.5	63.28	0.72	0.77	5.2	1.71	2.1	2.0
0.37		71M4B		072302-	1395	68.5	69.38	0.75	1.04	5.2	2.53	2.1	2.0
0.55		80M4A		082301-	1410	73.5	71.39	0.72	1.50	5.2	3.73	2.4	2.0
0.75		80M4B		082302-	1415	74.5	75.15	0.755	1.92	6.0	5.06	2.4	2.2
1.1		90S4A		092101-	1400	77.5	77.82	0.775	2.64	6.0	7.50	2.3	2.2
1.5		90L4A		092501-	1390	78.5	79.16	0.79	3.50	6.0	10.31	2.3	2.2
2.2		100L4A		102501-	1430	81.5	82.32	0.805	4.85	6.0	14.69	2.3	2.2
3		100L4B		102502-	1420	82.8	82.51	0.83	6.30	6.5	20.18	2.3	2.2
4		112M4A		112301-	1430	85.0	84.63	0.82	8.29	6.5	26.71	2.3	2.2
5.5		132S4A		132101-	1430	86.0	87.07	0.85	10.9	6.5	36.73	2.3	2.2
7.5		132M4A		132301-	1440	88.5	88.26	0.85	14.4	6.5	49.74	2.3	2.2
11		160M4A		162301-	1460	89.5	90.01	0.85	20.87	6.5	71.95	2.4	2.8
15		160L4A		162501-	1460	90.0	90.38	0.86	27.97	6.5	98.12	2.3	2.4
18.5		180M4A		182301-	1470	91.0	90.88	0.86	34.12	6.5	120.2	2.3	3.0
22		180L4A		182501-	1470	91.5	89.98	0.88	39.44	6.5	142.9	2.4	3.1
30		200L4A		202501-	1470	92.2	91.83	0.88	53.37	6.5	194.9	2.2	2.8
37		225S4A		222101-	1480	92.6	91.16	0.85	67.85	7.0	238.8	2.2	2.8
45		225M4A		222301-	1480	92.8	91.66	0.87	80.45	7.0	290.4	2.2	2.8
55		250M4A		252301-	1480	93.4	91.3	0.87	97.7	7.0	354.9	2.4	3.0
75		280S4A		282101-	1480	94.0	93.9	0.87	132.4	6.5	484	2.4	2.6
90		280M4A		282301-	1480	94.3	94.6	0.87	158.3	7.2	580.7	2.3	2.8
110		315S4A		312101-	1485	94.5	93.51	0.88	191	6.9	706.9	2.1	2.2
132		315M4A		312301-	1485	94.8	94.01	0.88	229	6.9	848.3	2.1	2.2
160		315L4A		312501-	1485	94.9	94.51	0.89	273	6.9	1029	2.1	2.2
200		315L4B		312502-	1485	95.0	94.18	0.89	341	6.9	1286	2.1	2.2
*250		355M4A		352301-	1490	95.3	94.5	0.90	420.7	6.9	1594	2.1	2.6
*315		355L4A		352501-	1490	95.6	94.83	0.90	528.4	7.0	2008	2.1	2.3

Code letters For supplementing the product code					*Insulation Class F Temperature rise Class F	
Code letters For voltage and-frequency(product code position 13)						
A	B	D	E	F	H	
380VY50Hz	380V△50Hz	380~420V△50Hz 660~690VY50Hz 440~480 ¹⁾ V△60Hz	500V△50Hz 575V△60Hz	500VY50Hz 575VY60Hz	415V△50Hz	
S	T	U	X			
220~240V△50Hz 380~420VY50Hz 440~480VY60Hz	660V△50Hz	690V△50Hz	Other rated voltage connection or frequency, max, 690V	1)480V not stamped on sizes 160 to 355		

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

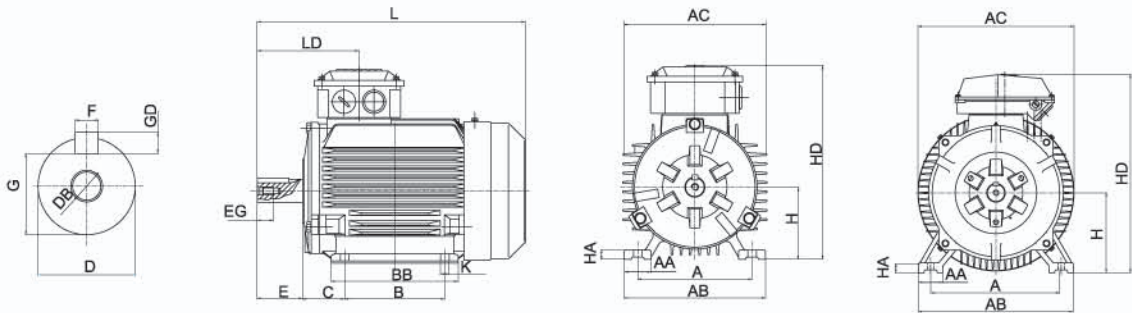
380V 50Hz						415V 50Hz						
功率	型号规格	转速	效率	功率因数	电流	转速	效率	功率因数	电流	转动惯量	重量	噪声
Output	Type	Speed	Efficiency	Power factor	Current	Speed	Efficiency	Power factor	Current	Moment of inertia	Weight	Sound
kW	designation	n	η %	cos φ	A	n	η %	cos φ	A	J=GD ² /4	kg	pressure level
		r/min				r/min				kgm ²		Lp dB(A)
3000r/min=2poles Basic design												
0.37	M2QA 71M2A	2765	70.0	0.83	0.97	2795	70.0	0.79	0.93	0.00030	10	56
0.55	71M2B	2780	73.0	0.835	1.37	2800	73.0	0.79	1.33	0.00037	11	56
0.75	80M2A	2825	75.5	0.86	1.75	2855	75.0	0.85	1.64	0.00091	16	57
1.1	80M2B	2840	77.5	0.855	2.52	2870	78.0	0.83	2.37	0.00107	17	58
1.5	90S2A	2835	79.0	0.895	3.22	2865	79.0	0.86	3.08	0.00135	21	61
2.2	90L2A	2835	81.5	0.89	4.61	2865	81.0	0.83	4.56	0.00163	24	61
3	100L2A	2845	83.0	0.895	6.14	2875	83.5	0.855	5.85	0.00402	33	65
4	112M2A	2885	85.0	0.915	7.82	2915	85.0	0.87	7.53	0.00671	42	67
5.5	132S2A	2905	87.5	0.90	10.61	2935	88.0	0.875	9.94	0.01241	58	70
7.5	132S2B	2905	87.5	0.90	14.5	2935	89.0	0.90	13.03	0.01491	63	70
11	160M2A	2900	90.0	0.91	20.41	2930	90.0	0.87	19.54	0.0436	112	72
15	160M2B	2920	90.0	0.91	27.82	2930	90.0	0.88	26.35	0.0551	122	72
18.5	160L2A	2920	90.5	0.91	34.13	2935	90.5	0.89	31.95	0.06549	142	72
22	180M2A	2940	90.8	0.91	40.45	2955	90.8	0.88	38.30	0.08805	170	75
30	200L2A	2950	91.2	0.91	54.90	2960	91.3	0.89	51.36	0.14821	235	81
37	200L2B	2950	91.7	0.91	67.36	2960	92.3	0.89	62.65	0.16822	254	81
45	225M2A	2965	92.2	0.90	82.39	2975	92.6	0.87	77.71	0.29345	328	81
55	250M2A	2955	93.2	0.90	100	2960	93.5	0.88	93	0.3784	390	84
75	280S2A	2965	94.0	0.91	133.2	2975	93.8	0.91	122.2	0.587	504	85
90	280M2A	2965	94.3	0.91	159	2975	94.1	0.91	146.2	0.615	560	85
110	315S2A	2980	94.0	0.92	193	2980	94.0	0.90	181	1.4083	910	88
132	315M2A	2980	94.5	0.92	231	2980	94.5	0.90	216	1.5584	1010	88
160	315L2A	2975	94.6	0.93	276	2980	94.6	0.91	259	1.7256	1070	88
200	315L2B	2975	94.8	0.93	345	2980	94.8	0.91	323.0	1.9405	1120	88
*250	355M2A	2980	95.4	0.92	433	2980	95.4	0.91	400.6	3.05	1438	89
*315	355L2A	2980	96.0	0.92	542	2980	96.0	0.91	501.6	3.6	1726	89

外形尺寸图 Dimension Drawing

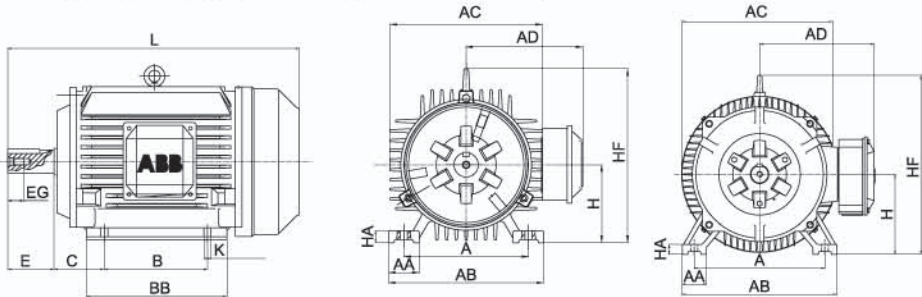
Foot-mounted motor designation IM B3, IM B6, IM B7, IM B8, IM V5, IM V6

Cast iron motor
Type M2QA71-355

三相电动机，底脚安装，接线盒置顶
three-phase motor, foot-mounted, terminal box top-mounted



三相电动机，底脚安装，接线盒右置
three-phase motor, foot-mounted, terminal box on right hand side



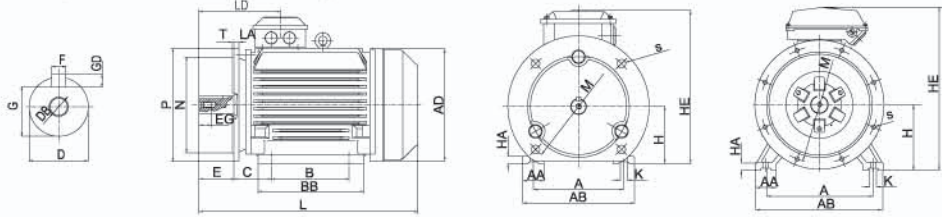
Type M2QA	Poles	A	AA	AB	AC	B	BB	C	D	E	F	G	GD	DB	EG
71M	2-6	112	30	145	145	90	120	45	14 - j6	30	5	11	5	M5	13
80M	2-8	125	35	160	165	100	135	50	19 - j6	40	6	15.5	6	M6	16
90S	2-8	140	35	175	180	100	140	56	24 - j6	50	8	20	7	M8	19
90L	2-8	140	35	175	180	125	165	56	24 - j6	50	8	20	7	M8	19
100L	2-8	160	40	200	205	140	180	63	28 - j6	60	8	24	7	M10	22
112M	2-8	190	50	240	225	140	190	70	28 - j6	60	8	24	7	M10	22
132S	2-8	216	55	270	265	140	205	89	38 - k6	80	10	33	8	M12	28
132M	2-8	216	55	270	265	178	240	89	38 - k6	80	10	33	8	M12	28
160M	2-8	254	60	320	330	210	265	108	42 - k6	110	12	37	8	M16	36
160L	2-8	254	60	320	330	254	310	108	42 - k6	110	12	37	8	M16	36
180M	2-4	279	70	350	355	241	315	121	48 - k6	110	14	42.5	9	M16	36
180L	4-8	279	70	350	355	279	350	121	48 - k6	110	14	42.5	9	M16	36
200L	2-8	318	70	390	395	305	380	133	55 - m6	110	16	49	10	M20	39
225S	4-8	356	75	435	440	286	380	149	60 - m6	140	18	53	11	M20	39
225M	2	356	75	435	440	311	405	149	55 - m6	110	16	49	10	M20	39
225M	4-8	356	75	435	440	311	405	149	60 - m6	140	18	53	11	M20	39
250M	2	406	80	490	485	349	455	168	60 - m6	140	18	53	11	M20	39
250M	4-8	406	80	490	485	349	455	168	65 - m6	140	18	58	11	M20	39
280S	2	457	85	550	540	368	490	190	65 - m6	140	18	58	11	M20	39
280S	4-8	457	85	550	540	368	490	190	75 - m6	140	20	67.5	12	M20	39
280M	2	457	85	550	540	419	540	190	65 - m6	140	18	58	11	M20	39
280M	4-8	457	85	550	540	419	540	190	75 - m6	140	20	67.5	12	M20	39
315S	2	508	120	630	620	406	570	216	65 - m6	140	18	58	11	M20	39
315S	4-8	508	120	630	620	406	570	216	80 - m6	170	22	71	14	M20	39
315M	2	508	120	630	620	457	680	216	65 - m6	140	18	58	11	M20	39
315M	4-8	508	120	630	620	457	680	216	80 - m6	170	22	71	14	M20	39
315L	2	508	120	630	620	508	680	216	65 - m6	140	18	58	11	M20	39
315L	4-8	508	120	630	620	508	680	216	80 - m6	170	22	71	14	M20	39
355M	2	610	116	730	710	560	750	254	70 - m6	140	20	62.5	12	M20	39
355M	4-6	610	116	730	710	560	750	254	100 - m6	210	28	90	16	M24	47
355L	2	610	116	730	710	630	750	254	70 - m6	140	20	62.5	12	M20	39
355L	4-6	610	116	730	710	630	750	254	100 - m6	210	28	90	16	M24	47

Flange-mounted, mounting designation IM B5, IM V1, IM V3

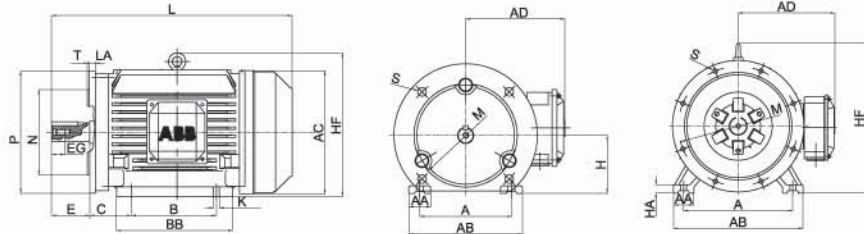
Foot and flange-mounted, mounting designation IM B35, IM V15, IM V36

Cast iron motor
Type M2QA71-355

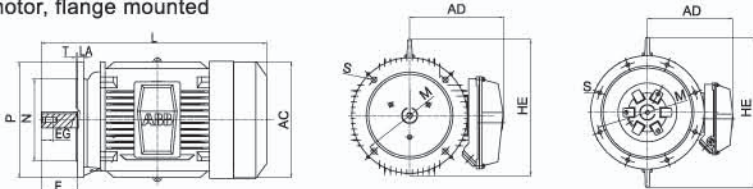
三相电动机，底脚和法兰安装，接线盒置顶
three-phase motor, foot and flange mounted, terminal box top-mounted



三相电动机，底脚和法兰安装，接线盒右置
three-phase motor, foot and flange mounted, terminal box on right hand side



三相电动机，法兰安装
three-phase motor, flange mounted

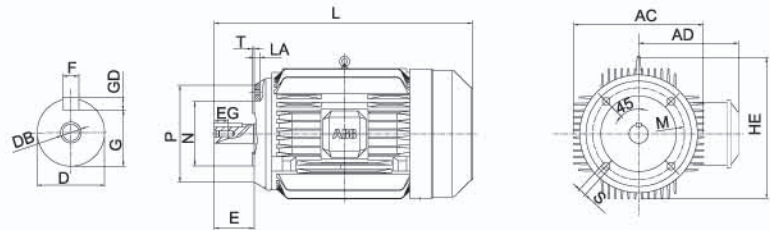


Type M2QA	Poles	H	HA	HD	HF	K	L	LD	AD	LA	M	N	P	S	T	HE
71M	2-6	71	9	190	---	ø7	255	100	120	9	ø130	ø110	ø160	4-ø10	3.5	165
80M	2-8	80	11	220	170	ø10	285	116	145	9	ø165	ø130	ø200	4-ø12	3.5	200
90S	2-8	90	12	240	185	ø10	310	128	150	10	ø165	ø130	ø200	4-ø12	3.5	200
90L	2-8	90	12	240	185	ø10	335	128	150	10	ø165	ø130	ø200	4-ø12	3.5	200
100L	2-8	100	12	270	245	ø12	380	143	175	11	ø215	ø180	ø250	4-ø15	4	270
112M	2-8	112	15	295	265	ø12	395	149	185	11	ø215	ø180	ø250	4-ø15	4	278
132S	2-8	132	18	335	300	ø12	465	174	205	12	ø265	ø230	ø300	4-ø15	4	320
132M	2-8	132	18	335	300	ø12	505	174	205	12	ø265	ø230	ø300	4-ø15	4	320
160M	2-8	160	22	410	380	ø15	600	249	260	15	ø300	ø250	ø350	4-ø19	5	400
160L	2-8	160	22	410	380	ø15	645	249	260	15	ø300	ø250	ø350	4-ø19	5	400
180M	2-4	180	22	450	420	ø15	670	267	275	18	ø300	ø250	ø350	4-ø19	5	420
180L	4-8	180	22	450	420	ø15	710	267	275	18	ø300	ø250	ø350	4-ø19	5	420
200L	2-8	200	25	510	470	ø19	770	283	325	20	ø350	ø300	ø400	4-ø19	5	470
225S	4-8	225	28	555	520	ø19	820	333	355	20	ø400	ø350	ø450	8-ø19	5	520
225M	2	225	28	555	520	ø19	815	303	355	20	ø400	ø350	ø450	8-ø19	5	520
225M	4-8	225	28	555	520	ø19	840	333	355	20	ø400	ø350	ø450	8-ø19	5	520
250M	2	250	30	630	580	ø24	930	357	375	22	ø500	ø450	ø550	8-ø19	5	655
250M	4-8	250	30	630	580	ø24	930	357	375	22	ø500	ø450	ø550	8-ø19	5	655
280S	2	280	35	690	645	ø24	985	350	415	22	ø500	ø450	ø550	8-ø19	5	725
280S	4-8	280	35	690	645	ø24	985	350	415	22	ø500	ø450	ø550	8-ø19	5	725
280M	2	280	35	690	645	ø24	1040	350	415	22	ø500	ø450	ø550	8-ø19	5	725
280M	4-8	280	35	690	645	ø24	1040	350	415	22	ø500	ø450	ø550	8-ø19	5	725
315S	2	315	45	855	720	ø28	1190	397	550	22	ø600	ø550	ø660	8-ø24	6	800
315S	4-8	315	45	855	720	ø28	1220	427	550	22	ø600	ø550	ø660	8-ø24	6	800
315M	2	315	45	860	720	ø28	1300	397	550	22	ø600	ø550	ø660	8-ø24	6	800
315M	4-8	315	45	860	720	ø28	1330	427	550	22	ø600	ø550	ø660	8-ø24	6	800
315L	2	315	45	860	720	ø28	1300	397	550	22	ø600	ø550	ø660	8-ø24	6	800
315L	4-8	315	45	860	720	ø28	1330	427	550	22	ø600	ø550	ø660	8-ø24	6	800
355M	2	355	52	1010	850	ø35	1495	403	650	25	ø740	ø680	ø800	8-ø24	6	1020
355M	4-6	355	52	1010	850	ø35	1565	473	650	25	ø740	ø680	ø800	8-ø24	6	1020
355L	2	355	52	1010	850	ø35	1495	403	650	25	ø740	ø680	ø800	8-ø24	6	1020
355L	4-6	355	52	1010	850	ø35	1565	473	650	25	ø740	ø680	ø800	8-ø24	6	1020

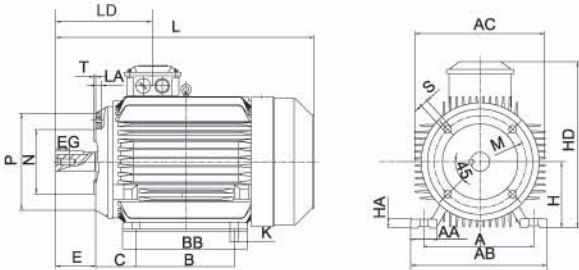
外形尺寸图 Dimension Drawing

Flange-mound, IM B14, IM V18, IM V19 小法兰安装, IM B14, IM V18, IM V19 Cast iron motor
Foot-and flange-mounted, IM B34 Type M2QA71-160

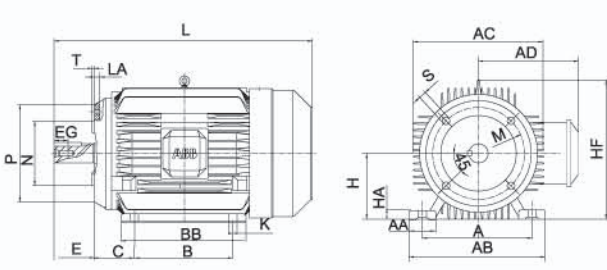
小法兰安装, IM B14
Flange-mounded motor, small flange IM B14



接线盒置顶, IM B34
Terminal box top-mounted IM B34

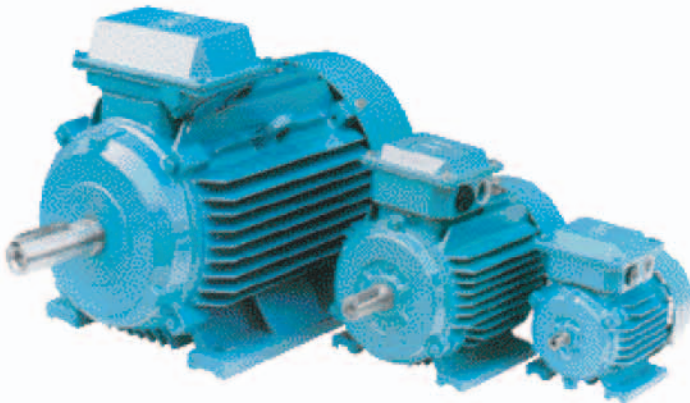


接线盒旁置, IM B34
Terminal box side-mounted IM B34



Type	Pole	A	AA	AB	AC	B	BB	C	D	E	F	G	GD	DB	EG	H	HA	HD	K	L	LD	AD	LA	HE	HF
M2QA 71M	2-6	112	30	145	145	90	120	45	14	30	5	11	5	M5	12.5	71	10	200	7	255	100	120	9	145	-
80M	2-8	125	35	165	165	100	135	50	19	40	6	15.5	6	M6	16	80	12	225	10	285	116	145	9	200	185
90S	2-8	140	35	175	180	100	140	56	24	50	8	20	7	M8	19	90	12	240	10	310	128	150	10	200	195
90L	2-8	140	35	175	180	125	165	56	24	50	8	20	7	M8	19	90	12	240	10	335	128	150	10	200	195
100L	2-8	160	40	200	205	140	180	63	28	60	8	24	7	M10	22	100	14	275	12	380	138	175	11	270	245
112M	2-8	190	50	240	225	140	190	70	28	60	8	24	7	M10	22	112	15	290	12	395	144	185	11	278	265
132S	2-8	216	55	270	265	140	205	89	38	80	10	33	8	M12	28	132	18	335	12	465	169	205	15	320	300
132M	2-8	216	55	270	265	178	240	89	38	80	10	33	8	M12	28	132	18	335	12	505	169	205	15	320	300
160M	2-8	254	60	325	330	210	265	108	42	110	12	37	8	M16	36	160	22	415	15	600	250	255	18	400	380
160L	2-8	254	60	325	330	254	310	108	42	110	12	37	8	M16	36	160	22	415	15	645	250	255	18	400	380

Type	Pole	Size	P	M	N	S	T
M2QA 71M	2-6	C105	105	85	70	M6	2.5
71M	2-6	C140	140	115	95	M8	3.0
80M	2-8	C120	120	100	80	M6	3.0
80M	2-8	C160	160	130	110	M8	3.5
90S	2-8	C140	140	115	95	M8	3.0
90S	2-8	C160	160	130	110	M8	3.5
90L	2-8	C140	140	115	95	M8	3.0
90L	2-8	C160	160	130	110	M8	3.5
100L	2-8	C160	160	130	110	M8	3.5
100L	2-8	C200	200	165	130	M10	3.5
112M	2-8	C160	160	130	110	M8	3.5
112M	2-8	C200	200	165	130	M10	3.5
132S	2-8	C200	200	165	130	M10	3.5
132M	2-8	C200	200	165	130	M10	3.5
160M	2-8	C250	250	215	180	M12	4
160L	2-8	C250	250	215	180	M12	4



轴端密封 Bearing Seals

电动机选配有下列密封。
Optional motors ave available with seals according to table below.

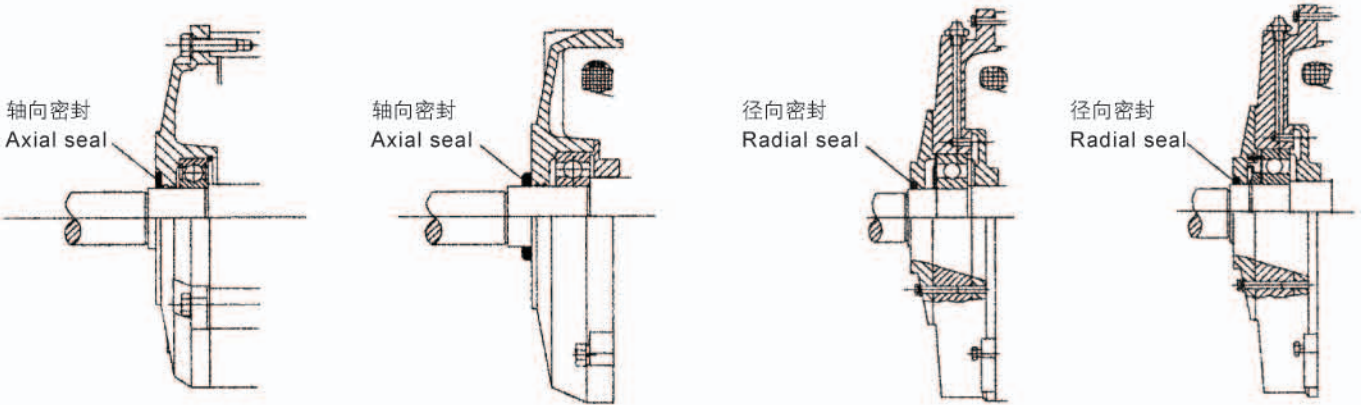
电动机规格 Motor size	说明驱动端 Description D-end	标准设计, 轴向密封 驱动端 Standard design Axial seal D-end	其它设计 径向密封(DIN 3760) 代码072	Alternative design Radial seal (DIN 3760) Variant code 072
71	驱动端密封轴承, 轴向密封, 防尘密封圈 Sealed bearings (2RS) and axial seal, gamma ring, at D-end	RB15 x 30 x 4		
80		RB20 x 35 x 4		
90		RB25 x 40 x 4		
100		RB30 x 47 x 4.5		
112		RB35 x 52 x 4.5		
132		RB40 x 57 x 4.5		
160	驱动端轴向密封, 防尘密封圈 Axial seal, gamma ring, at D-end	RB45 x 62 x 4.5		
180		RB50 x 70 x 5.5		
200		RB60 x 80 x 5.5		
225		RB65 x 85 x 5.5		
250	两端带径向密封 Radial seal, at both-ends (标准配制 Standard)		TC70 x 85 x 10	
280			TC80 x 100 x 10	
315			2p	TC80 x 100 x 10
315			4-8p	TC95 x 120 x 12
355			2p	TC95 x 120 x 12
355			4-8p	TC95 x 120 x 12 TC110 x 130 x 13

电动机规格
Motor sizes
71-132

电动机规格
Motor sizes
160-225

电动机规格
Motor sizes
250-280

电动机规格
Motor sizes
315-355



选择电缆接口
Select Cable Entry

Type 型号	Germany Standard Screw (metric) 德国标准螺钉(公制)	DIN Standard Pg Screw DIN标准Pg制式螺钉
71	2-M16x1.5	2-Pg11
80-90	2-M25x1.5	2-Pg16
100-132	2-M32x1.5	2-Pg21
160-180	2-M40x1.5	2-Pg29
200-225	2-M50x1.5	2-Pg36
250-280	2-M63x1.5	2-Pg42
315-355	2-M63x1.5	2-Pg48

M2QA铸铁电动机，基本设计概述
M2QA Cast Iron Motors in Brief, Basic Design

电动机规格 Motor size		71	80	90	100	112	132	160
定子 Stator	材料 Material	铸铁 Cast iron HT150 GB/T9439						
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	油漆厚度 2层821丙烯酸聚胺酯磁漆，厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承端罩 Bearing end shields	材料 Material	铸铁 Cast iron HT150 GB/T9439						
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	2层821丙烯酸聚胺酯磁漆，厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承 Bearings	驱动端 D-end	6202	6204	6205	6206	6207	6208	6309
		VV C3	DDU C3	DDU C3	DDU C3	DDU C3	DDU C3	ZZ C3
	非驱动端 N-end	6202	6204	6205	6206	6206	6207	6209
		VV C3	DDU C3	DDU C3	DDU C3	DDU C3	DDU C3	ZZ C3
轴向锁紧轴承 Axially-locked bearings	弹簧圈 Spring ring	标准件，驱动端锁定 As standard, locked at D-end						
润滑 Lubrication		终生润滑 Greased for life						
铭牌 Rating plate	材料 Material	不锈钢 Stainless steel						
接线盒 Terminal box	框架材料 Frame material	铸铁 Cast iron HT150 GB/T9439						
	盒盖材料 Cover material	铸铁 Cast iron HT150 GB/T9439						
连接 Connections	进线 Cable entries	2-M16x1.5	2-M25x1.5	2-M25x1.5	2-M32x1.5	2-M32x1.5	2-M32x1.5	1-M16x1.5 2-M40x1.5
	端子 Terminals	6个接线端子 6 terminals for connection						
风扇 Fan	材料 Material	强化玻璃纤维 Reinforced glass fiber						
风扇罩 Fan cover		钢 Steel						
	材料 Material	蓝色 Blue, Munsell 8B 4.5/ 3.25/NCS 4822 B05G						
	油漆色调 Paint colour	2层821丙烯酸聚胺酯磁漆，厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
定子绕组 Stator winding	材料 Material	铜 Copper						
	绝缘 Insulation	绝缘等级F Insulation class F						
	绕组保护 Winding	根据用户要求 On request						
转子绕组 Rotor winding	材料 Material	压模铸铝 Pressure die-cast aluminium						
平衡方法 Balancing method		标准配置采用半键平衡 Half key balancing as standard						
键槽 Key ways		开式键槽 Open key way						
外壳防护等级 Enclosure		IP 55						
冷却方法 Cooling method		IC 411						

*) For vertical-mounted motors, pls see the specification on the rating plate.

M2QA铸铁电动机，基本设计概述
M2QA Cast Iron Motors in Brief, Basic Design

电动机规格 Motor size		180	200	225	250	280	315	355
定子 Stator	材料 Material	铸铁 Cast iron HT150 GB/T9439			铸铁 HT200 GB/T9439 (立式安装电动机除外) Cast iron HT200 GB/T9439 except vartical-mounted			
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	油漆厚度 2层821丙烯酸聚胺酯磁漆，厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承端罩 Bearing end shields	材料 Material	铸铁 Cast iron HT150 GB/T9439			铸铁HT200 GB/T9439 (立式安装电动机除外) Cast iron HT200 GB/T9439 except vartical-mounted			
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	2层821丙烯酸聚胺酯磁漆，厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承 Bearings	驱动端 D-end	6310	6312	6313	6314 C3 *	6316/C4 *	6316/C4 *	6319M/C4 *
		ZZ C3	ZZ C3	ZZ C3		6316/C3	6319/C3	6322/C3
	非驱动端 N-end	6210	6212	6213	6214 C3 *	6316/C4 *	6316/C4 *	6319M/C4 *
		ZZ C3	ZZ C3	ZZ C3		6316/C3	6319/C3	6319/C3
轴向锁紧轴承 Axially-locked bearings	弹簧圈 Spring ring	Spring ring Locked at D-end	As standard locked at D-end		As standard locked at ND-end			
润滑 Lubrication		Greased for life or regreasable			Regreasable bearings			
铭牌 Rating plate	材料 Material	Stainless steel						
接线盒 Terminal box	框架材料 Frame material	Cast iron HT150 GB/T9439			Cast iron HT200 GB/T9439			
	盒盖材料 Cover material	Cast iron HT150 GB/T9439			Cast iron HT200 GB/T9439			
连接 Connections	进线 Cable entries	1-M16x1.5 2-M40x1.5	1-M16x1.5 2-M50x1.5	1-M16x1.5 2-M50x1.5	1-M20x1.5 2-M63x1.5	1-M20x1.5 2-M63x1.5	2-M20x1.5 2-M63x1.5	
	端子 Terminals	6个接线端子 6 terminals for connection						
风扇 Fan	材料 Material	强化玻璃纤维 Reinforced glass fiber				强化玻璃纤维或铝制 Reinforced glass fiber or aluminium		
风扇罩 Fan cover		钢 Steel						
	材料 Material	蓝色 Blue, Munsell 8B 4.5/ 3.25/NCS 4822 B05G						
	油漆色调 Paint colour	2层821丙烯酸聚胺酯磁漆，厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
定子绕组 Stator winding	材料 Material	铜 Copper						
	绝缘 Insulation	绝缘等级F Insulation class F						
	绕组保护 Winding	根据用户要求 On request				标准配置为3个150℃ PTC热敏电阻 3 PTC themistors as standard, 150℃		
转子绕组 Rotor winding	材料 Material	压模铸铝 Pressure die-cast aluminium						
平衡方法 Balancing method		标准配置采用半键平衡 Half key balancing as standard						
键槽 Key ways		开式键槽 Open key way						
外壳防护等级 Enclosure		IP 55						
冷却方法 Cooling method		IC 411						

*) For vertical-mounted motors, pls see the specification on the rating plate.